

Soil Management Plan

For outside pig keepers

June 2017





Farmer details

Name:

Address:

.....

.....

Postcode:

Telephone number:

Email address:

CPH number:

Site details

Name:

Address:

.....

.....

Postcode:

CPH number:

Date site inspected: / /

Report prepared by:

Annual review: / /
(date and initial)

Introduction

All outdoor pig producers are encouraged to produce a Soil Management Plan (SMP) for the land on which they are keeping pigs. This is to demonstrate good practice and avoid potential problems associated with soil erosion and management issues that may put agricultural subsidy payments to land occupiers in jeopardy, resulting in pollution or other negative impacts.

Good practice also presents a good image of the industry to the general public, retailers, regulators and policy makers. This plan is not a substitute for any documents required by Defra, as compliance to the Basic Payment Scheme, Environmental Stewardship or other schemes.

Purpose of the plan

The Plan assesses the risks of surface run-off and soil erosion and describes how the soil will be managed to ensure good structure and maintain the infiltration of rainfall. It describes possible measures for soil management, to avoid surface runoff and soil erosion, records the success of them and offers possible mitigation measures if required.

There are three steps in producing a plan: it is a live document requiring regular updating and must be reviewed at least annually. The steps are:

- Produce a map showing the risk class for each field or part field occupied by pigs
- Record for each field the steps to be taken to minimise the risk of run-off and erosion – Land Management Plan
- Retain the plan and review annually, incorporating the experiences of previous years.

This plan is best prepared by the land occupier as it demonstrates engagement and application of thought to the process.

Risk assessment map

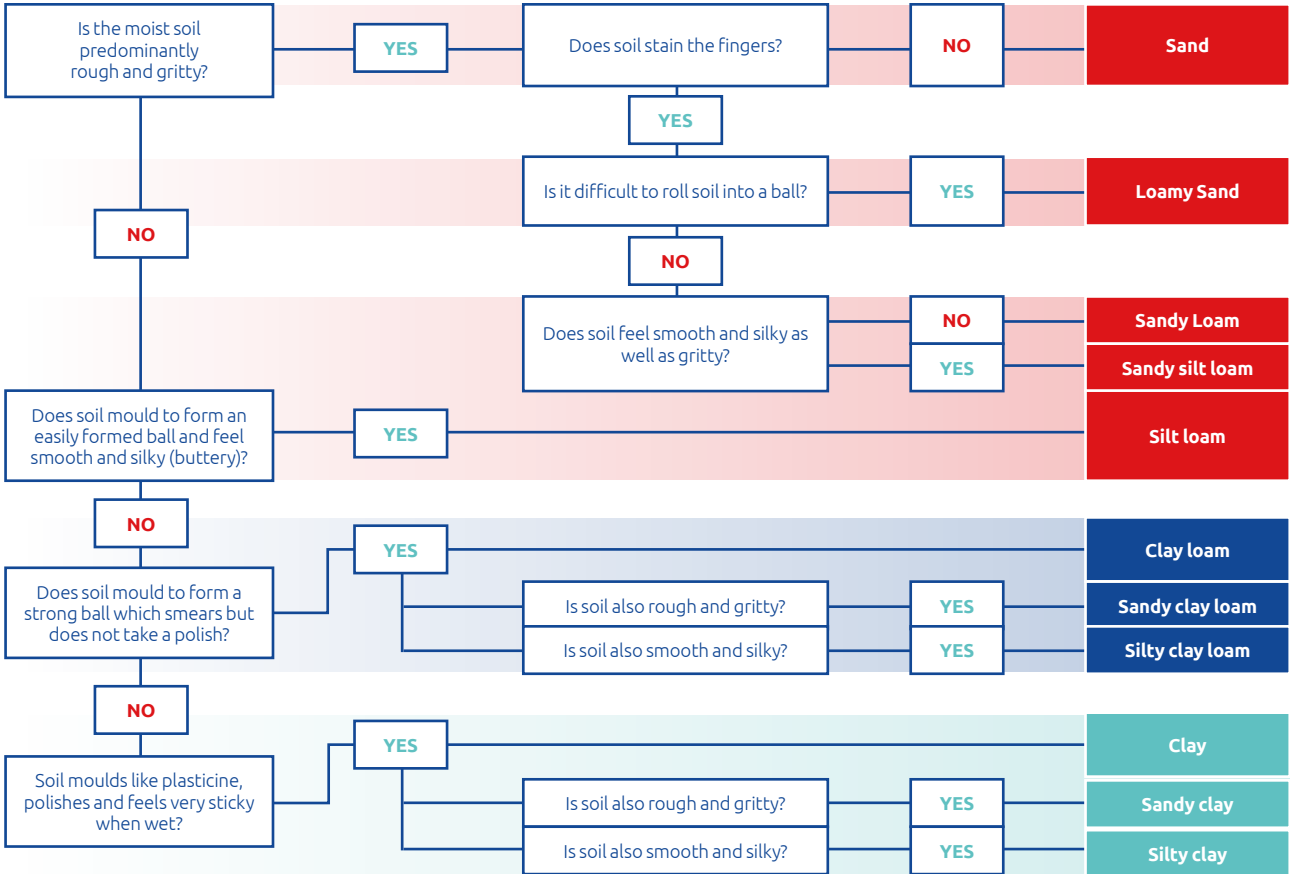
The following steps and information are used to prepare a run-off and water and/or wind erosion risk map for the land on which pigs are kept or are to be kept. Three key elements are used for the basis of this map:

- Soil texture
- Slope/gradient
- Annual rainfall.

Erosion risk in any part of a field will depend on upon soil texture, slope gradient and uniformity. Sub-divide fields if the slope, soils or topography differs significantly.

How to assess soil texture

For practical purposes you can assess soil texture by hand (follow the diagram below). Take about a handful of soil. If dry, wet-up gradually, kneading thoroughly between finger and thumb until crumbs are broken down. Enough water is needed to hold the soil together and to show its maximum stickiness.



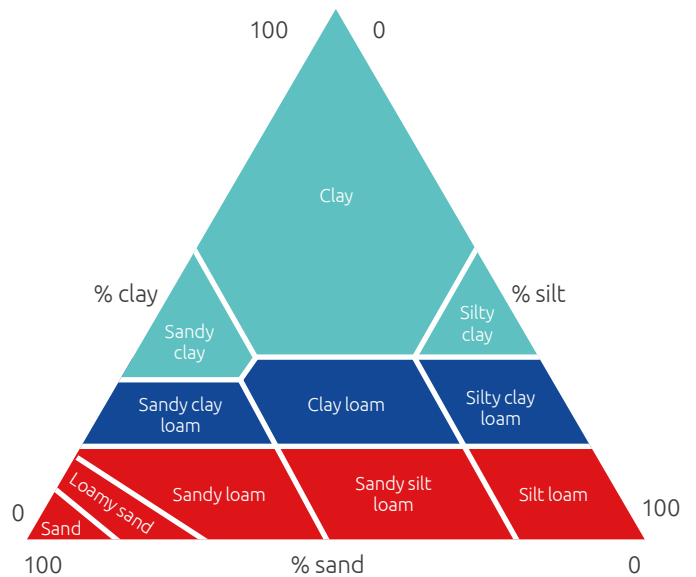
Source: Appendix D. Controlling soil erosion. A manual for the assessment and management of agricultural land at risk of water erosion in lowland England. (MAFF PB4093) crown copyright.

Identification of soil groups

Soil can be placed into one of five broad groups

- Sandy and light silty soils (see triangle)
- Medium soils (see triangle)
- Heavy soils (see triangle)
- Chalk and limestone soils (often shallow)
- Peaty soils (peat and organic soils that contain more than 20% organic matter)

For further information about soils, their management and the risks involved see the Environment Agency's Think Soils.



Source: Appendix C. Controlling soil erosion. A manual for the assessment and management of agricultural land at risk of water erosion in lowland England. (MAFF PB4093) crown copyright.

Farm summary sheet

The following table has also been included to ensure producers consider all factors affecting soil when completing their risk assessment map (blank areas to be filled in).

Number of pigs:		
Stocking density:		
Farm size:		
Duration site occupied:		
Dates pigs moved on/off land:		
Designations applying to site and surroundings (distance) – for more information visit magic.defra.gov.uk	Nitrogen Vulnerable Zones (NVZ):	
	Site of Special Scientific Interest (SSSI):	
	Area of Outstanding Natural Beauty (AONB):	
	Source Protection Zones (SPZ):	
	Other:	
Field name/number	Soil texture/type	
	Top soil	Sub soil
Signs of waterlogging/ponding/capping/compaction/mottling:		
Drainage: (type/location/maintenance)		
Connectivity to water courses/boreholes: (location and distance)		
Annual rainfall:		
Location: (exposed/windy/residential housing)		
Signs of erosion/runoff:		
Buffer zones:		
Traffic management:		
Tyre pressure/type:		
Crops:	Previous	Planned
Site and paddock layout: (feeders/troughs/tracks/roads/gates)		
Soil management training:	Training provider	Date

Use the following table as a guide to identify the risk class of your field or field sub-section.

Soil texture	Steep slopes >12% >7°	Moderate slopes 5–12% 3°–7°	Gentle slopes 5–3.5% 2°–3°	Level ground <3.5% <2°
Sand and light silty soils	Very high	High	Moderate	Lower
Medium and calcareous soils	High	Moderate	Lower	Lower
Heavy soils	Lower	Lower	Lower	Lower

Source: Defra, Controlling Soil Erosion

Other physical signs of erosion may override the assessment made using the table above: use your experience if this is the case. For example, areas known to be prone to the formation of rills (a small channel or gully, such as one formed during soil erosion) may be revised from “High” as derived using the table to “Very High” risk. Use your Farm Summary Sheet to help you make this assessment decision.

Other items to include on the map:

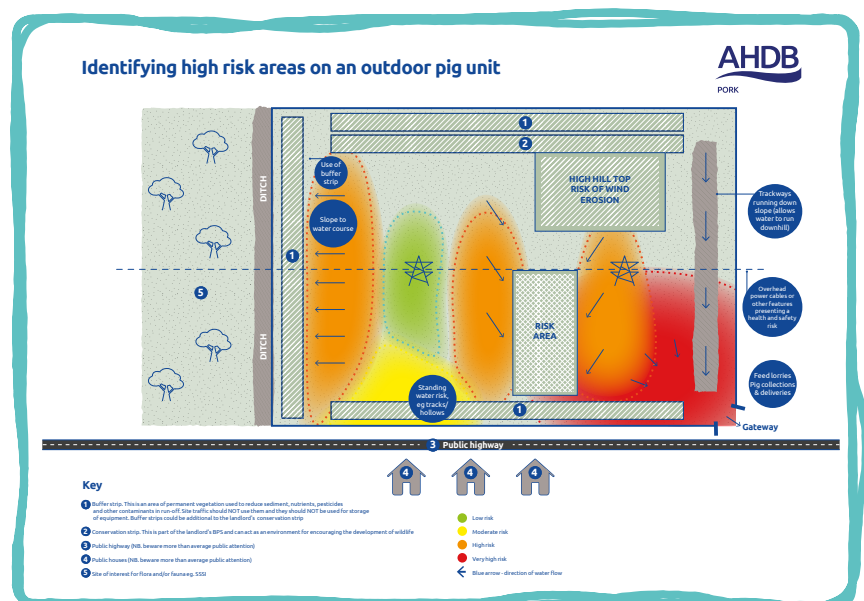
- Gates and field entrances
- Roads and tracks
- Ditches and watercourses
- Gradient direction
- Field names and paddock layout
- Buffer strips
- Residential housing.

If your risk assessment map becomes crowded then duplicate the map and split the information between the two. It may also be useful to include in your Soil Management Plan any photos of your field, layout, problem areas and soil samples.

Risk assessment map example

Indicate on the plan the general fall of the land and any surface water flow, paths and describe slope, eg gentle. Mark on the plan any areas prone to wind erosion (use cross hatching).

- Very high risk
- High risk
- Moderate risk
- Low risk
- Slight risk



An enlarged version of this map can be found on page 14.

Land management plan

The attached Land Management Plan forms can be used to record your proposed management strategy for the land, along with observations and changes that may need to be made.

Below is a quick guide on how to complete your Land Management Plan forms:

- Consider the land in three phases:
 - Pre-stocking period
 - Stocking period
 - Post stocking period.
- Refer to your risk assessment map and consider how best to manage any issues for each risk area identified. You may need to number these as an aid to identification.
- Describe management practices that will be required to minimise run-off, erosion or soil compaction so that soil conditions are maintained or improved
- Describe how feeding will be managed
- Describe procedures for determining remedial measures that may be required in the event of failure, for example, after extreme weather events
- Regularly review and update your plan, indicating the success or otherwise of your strategy.

Below is a list of possible management issues and suggested proposals to remedy them.

Management issues	Management proposals
Run-off and/or soil erosion	Install low bank (berm) along boundary
	Relocate access points
	New grass buffer strips
	Shelter belts
	Locate tracks along contour lines where possible
	Settlement ponds on foeld boundaries
	Entry level Stewardship
Long unbroken slopes	Place bales or old bedding straw to break up water flow
	Break slope with a ditch or electric fence to separate paddocks
Structureless soils with low organic matter or soils with clay content	If compaction occurs break compacted layer only
Compaction	Rotate animals around site
	Cultivate land
	Consider the use of low pressure tyres, which will help prevent compaction when correctly inflated
Wheel ruts	Avoid vehicle access to waterlogged fields where possible
	Consider the use of low pressure tyres
	Ensure tyre pressures are correct
Others identified specific to your situation	Alter course of travel

Potential soil management procedures

Site preparation pre-pigs

- The best time of year to assess fields is the winter, before you occupy them, as it gives prior knowledge of the site (rainfall, slope effect, lying water)
- Ask the landlord for any field drainage plans for the area in question
- Look at previous pig records and discuss with previous land owners and locals
- Assess the field using Google Maps and Ordnance Survey maps
- Arable farms sometimes have GPS information which can be useful
- Obtain a copy of the owner's Soil Management Review and, if they have prepared one, Soil Management Plan. Use these as reference documents
- Lay the site out in a way which will work with the land and minimise soil management problems
- Where appropriate, consider ways to establish grass cover.
- Consider drinking water protection zones (including NVZs) apps.environment-agency.gov.uk/wiyby

• Site management while pigs occupy land

- Monitor tracks, paddocks and gateways for signs of compaction or run-off
- Tracks placed near to the field edges, leaving a grass berm against the boundary and along contour lines when required
- Check all run-off areas are sub-soiled to alleviate and prevent soil compaction
- Drainage and run-off areas have all been placed in high risk areas
- Monitor the soil for signs of drainage or soil erosion problems and apply appropriate measures to prevent further damage
- Keep a record of successful and unsuccessful measures to problems with further possible solutions for future reference.
- Consider constructing a temporary store to allow soil to settle out of run-off water.

Site management post-pigs

- Actively hand back vacated land, working with the farmer or contractor
- Inform arable staff about any problems or issues
- Fill in pig wallows
- Cultivate tracks
- Provide details of stocking to the following land manager, for nutrient management planning purposes.

Review your Soil Management Plan annually or whenever a significant change occurs. If the farm is claiming under the Basic Payment Scheme then they must carry out a Soil Protection Review.

Further information

AHDB information

- Environment & Buildings website:
pork.ahdb.org.uk/environment-buildings
- Good Soil management practice – A Guide for Outdoor Pig keeping:
pork.ahdb.org.uk/environment-buildings/water-soil-and-air
- Nutrient Management Guide (RB209):
ahdb.org.uk/rb209
- Practical Pig App videos on Soil management by Tim Schofield, Suffolk FWAG:
practicalpig.ahdb.org.uk/outdoor-breeding/soil-management
- AHDB Field drainage guide:
pork.ahdb.org.uk/drainage
- Video on sub-soiling by Philip Wright:
pork.ahdb.org.uk/subsoiling
- Video on strip grazing farrowing paddocks:
www.youtube.com/AHDBPork

Or contact your local AHDB Pork KE manager to discuss your individual details:
pork.kt@ahdb.org.uk or 024 7647 8793

Other information

- Think Soils – Soil assessment to avoid erosion and runoff, Environment Agency, 2008:
ahdb.org.uk/thinksoils
- Code of Good Agricultural Practice: Protecting our Water, Soil and Air, Defra, 2009:
www.daera-ni.gov.uk/publications/code-good-agricultural-practice-cogap
- The Guide to Cross Compliance in England, Defra, Rural Payments Agency, 2011:
www.gov.uk/guidance/cross-compliance-2017
- Soil Management Standards for Farmers:
www.gov.uk/guidance/soil-management-standards-for-farmers
- For more information on Drinking Water Protection Zones and Special Protection Zones (SPZs) look at:
apps.environment-agency.gov.uk/wiyby
- For more information on designated areas and zones visit:
www.natureonthemap.naturalengland.org.uk
- Simply Sustainable Soils, LEAF (Linking Environment and Farming):
www.leafuk.org/leaf/farmers/simplysustainablesoils.eb
- Guide to Better Soil Structure, National Soil Research Institute (NSRI):
www.landis.org.uk
- The Voluntary Initiative – Promoting Responsible Pesticide Use:
www.voluntaryinitiative.org.uk/water/advice
- Basic Payment Scheme Guidance notes, Rural Payment Agency:
www.gov.uk/guidance/bps-2017



PORK

Land management plan

Introduction

The following forms should be used in conjunction with the AHDB Pork Soil Management Plan. For additional copies in word format please see link: pork.ahdb.org.uk/environment-buildings/water-soil-and-air/

Top tip

Provide photos, where possible, to use as a future reference or to show how things have improved

Site name:

.....

Other comments:

.....

.....

.....



PORK

Land management plan: Field characteristic

Site name:

Field name or identifier:

RLR No.:

Date:

Field sub-section	Characteristics (soil slope, soil permeability, run-off and erosion)

Other comments:

.....

.....

.....



PORK

Land management plan: Pre-stocking period

Field name or identifier:

RLR No.:

Field sub-section	Management Issue – refer to your Risk Assessment and Cross Compliance Soil Guidance	Management proposal	Issues that arose during the year and proposed remedial measures and/or management issues	Date

Other comments:

.....

.....

.....



PORK

Land management plan: Stocking period sheet

Site name:

Field name or identifier:

RLR No.:

Field sub-section	Management Issue – refer to your Risk Assessment and Cross Compliance Soil Guidance	Management proposal	Issues that arose during the year and proposed remedial measures and/or management issues	Date

Other comments:

.....

.....

.....

Land management plan: Post stocking sheet

Site name:

Field name or identifier:

RLR No.:

Field sub-section	Management Issue – refer to your Risk Assessment and Cross Compliance Soil Guidance	Management proposal	Issues that arose during the year and proposed remedial measures and/or management issues	Date

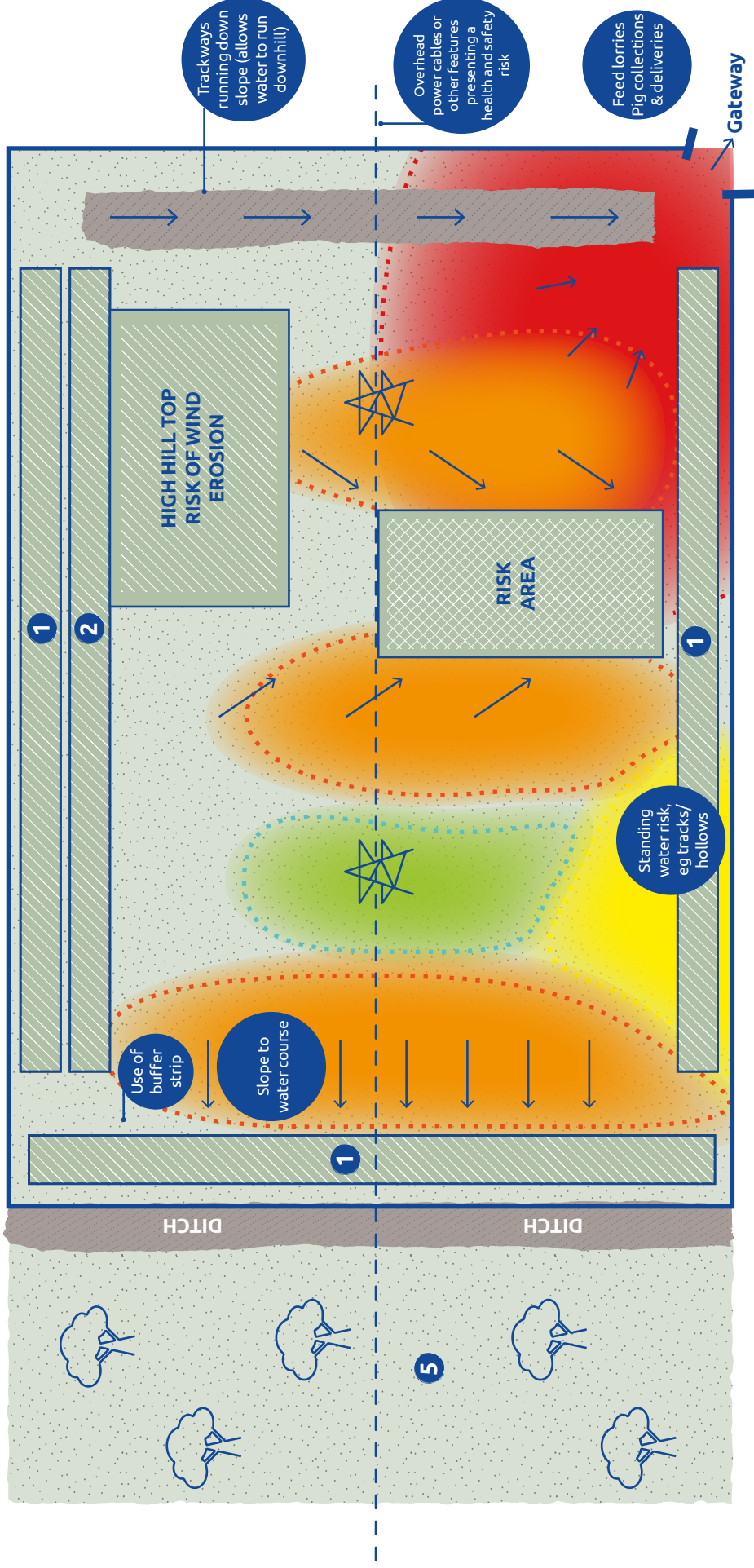
Other comments:

.....

.....

.....

Identifying high risk areas on an outdoor pig unit



Key

- 1** Buffer strip. This is an area of permanent vegetation used to reduce sediment, nutrients, pesticides and other contaminants in run-off. Site traffic should NOT use them and they should NOT be used for storage of equipment. Buffer strips could be additional to the landlord's conservation strip
- 2** Conservation strip. This is part of the landlord's BPS and can act as an environment for encouraging the development of wildlife
- 3** Public highway (NB. beware more than average public attention)
- 4** Public houses (NB. beware more than average public attention)
- 5** Site of interest for flora and/or fauna eg. SSSI

- Low risk
- Moderate risk
- High risk
- Very high risk
- Blue arrow - direction of water flow





Want to know more?

If you want more information about AHDB Pork you can contact us in the following ways...

pork.ahdb.org.uk

AHDB Pork, Stoneleigh Park,
Kenilworth, Warwickshire, CV8 2TL

T: 024 7669 8793 **E:** pork.kt@ahdb.org.uk

🐦 [@AHDB_Pork](https://twitter.com/AHDB_Pork) **f** [@AHDBPork](https://www.facebook.com/AHDBPork)

AHDB

PORK

AHDB Pork is a part of the Agriculture and Horticulture Development Board (AHDB).

While the Agriculture and Horticulture Development Board seeks to ensure that the information contained within this document is accurate at the time of printing, no warranty is given in respect thereof and, to the maximum extent permitted by law, the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.

© Agriculture and Horticulture Development Board 2017. No part of this publication may be reproduced in any material form (including by photocopy or storage in any medium by electronic means) or any copy or adaptation stored, published or distributed (by physical, electronic or other means) without the prior permission in writing of the Agriculture and Horticulture Development Board, other than by reproduction in an unmodified form for the sole purpose of use as an information resource when the Agriculture and Horticulture Development Board is clearly acknowledged as the source, or in accordance with the provisions of the Copyright, Designs and Patents Act 1988. All rights reserved.